

Review of Plant Pathology

Volume 67



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in association with the
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Review of Plant Pathology

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Systems

The Systems Unit provides computing facilities and services to all members of I.A.P. It maintains a central computing facility with a number of offices where users can report their requirements. The I.A.P. Unit is located in Cambridge, England. The Unit is also responsible for the provision of computer facilities to the members of I.A.P. who are located in other countries. The Unit is also responsible for the provision of computer facilities to the members of I.A.P. who are located in other countries. The Unit is also responsible for the provision of computer facilities to the members of I.A.P. who are located in other countries.

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(Note: under each crop, abstracts are arranged in the order general; virus and 'mycoplasma' diseases; fungus diseases; bacterial diseases; physiological disorders).

CAB International (CABI) is a not-for-profit, intergovernmental organization registered with the United Nations. It is owned and administered by its member governments; these currently number 28, but membership is open to all governments who wish to participate. Established in 1928, the organization provides information, scientific, and development services for agriculture and allied disciplines throughout the world.

Information Services

The main task of the Information Services, located at the CAB International Centre (CABIC) at Wallingford, is the creation of a bibliographic database of research on agriculture, forestry and allied disciplines, including social sciences and aspects of human medicine. Abstract journals derived from the database, and online access to it, provide a unique source of information for research scientists, development planners, educators and students. Subsidiary but growing tasks are the publication of primary journals and reference works, and training information professionals in developing countries.

The Accessions Unit acquires the relevant scientific and technical literature for abstracting by almost 100 scientists/linguists in the following 11 Bureaux:

Agricultural Economics	Crop Protection
Animal Breeding & Genetics	Horticulture & Plantation Crops
Animal Health	Plant Breeding & Genetics
Dairy Science & Technology	Soils
Nutrition	Forestry
Pastures & Field Crops	

Further material is acquired and processed by collaborating or contracted organizations. Other staff coordinate work on specialized directories and databanks, and commission new books and primary journals. The Publications Unit is responsible for printing the journals and books, and the Marketing & Sales Division promotes and sells Information Services products and services worldwide.

Scientific Services

CABI's Scientific Services consist of four Institutes and two support services:

CAB International Institute of Entomology (CIE), Director Dr K.M. Harris, located at 56 Queen's Gate, London, and in the British Museum, Natural History.

CAB International Mycological Institute (CMI), Director Professor D.L. Hawksworth, located at Ferry Lane, Kew, London, adjacent to the Royal Botanic Gardens.

CAB International Institute of Parasitology (CIP), Director Dr R. Muller, located at Winches Farm, St. Albans, the field station of the London School of Hygiene & Tropical Medicine.

These three Institutes provide an authoritative identification service for agricultural pests and other organisms, conduct research, implement projects, and provide training in their fields of expertise.

CAB International Institute of Biological Control (CIBC), Director Dr D.J. Greathead, has its headquarters at Silwood Park, Ascot, the field station of Imperial College of Science and Technology, University of London. It has stations in Trinidad and Tobago, Switzerland, Pakistan, Kenya and Malaysia. It provides biocontrol services, conducts training, and participates in integrated pest management programmes.

Development Services (CDS), Head Mr D. Heydon, integrate the broad range of CABI expertise to provide advice and assistance with agricultural problems, but particularly those related to pest management and information services.

Library Services, Manager Mr C.J. Hamilton, have their headquarters with CIBC at Silwood Park, where the main Library is held, with additional literature collections at CMI, CIP, CDS and CABIC. Library Services operate a Document Delivery Service.

Systems

The Systems Division provides computing resources and services to all parts of CABI. It maintains a central computing facility with telecommunications access to seven remote sites, including the four CABI Institutes. CABIC is served by a modern Local Area Network which provides access to the computers, and by advanced office automation facilities. The main computers are DEC VAX systems and the principal software systems are BASIS for data management and PAGER for typesetting and information retrieval.

The staff of 20 includes database production personnel, systems analysts, programmers and computer operators. The principal systems are for the production of the CABI bibliographic database and associated functions, plus accessions control, subscription management and electronic publishing.

C·A·B INTERNATIONAL INFORMATION SERVICES PRODUCTS AND SERVICES

Almost 100 scientists/linguists in the 11 Bureaux of CABI's Information Services at Wallingford, UK, with help from associated organizations and individuals worldwide, abstract and index the significant research and development literature in agriculture, forestry and allied disciplines. Over 10000 serials and many other publications are scanned, and approximately 130000 bibliographic records are compiled each year. From this computerized database is derived a wide range of information services and products in hard copy and machine-readable form, designed to meet a variety of customer needs.

HARD COPY PRODUCTS

Abstract journals

The following abstract journals on specific disciplines, specialist crops or products, or particular livestock are published, mostly monthly or quarterly. Each has author and subject indexes, cumulated annually in a special issue of the journal.

Animal Science and Production

Animal Breeding Abstracts; Dairy Science Abstracts; Nutrition Abstracts & Reviews, Series B—Livestock Feeds & Feeding; Pig News & Information; Poultry Abstracts.

Veterinary Science and Parasitic Diseases

Animal Disease Occurrence; Helminthological Abstracts, Series A—Animal & Human Helminthology; Index Veterinarius; Protozoological Abstracts; Review of Applied Entomology, Series B—Medical & Veterinary; Review of Medical & Veterinary Mycology; Small Animal Abstracts; Veterinary Bulletin.

Crop Science and Production

Cotton & Tropical Fibres Abstracts; Crop Physiology Abstracts; Faba Bean Abstracts; Field Crop Abstracts; Herbage Abstracts; Horticultural Abstracts; Irrigation & Drainage Abstracts; Lentil Abstracts; Maize Abstracts; Ornamental Horticulture; Plant Breeding Abstracts; Plant Growth Regulator Abstracts; Potato Abstracts; Rice Abstracts; Seed Abstracts; Soils & Fertilizers; Sorghum & Millets Abstracts; Soyabean Abstracts; Tropical Oil Seeds Abstracts; Wheat, Barley & Triticale Abstracts.

Forestry

Agroforestry Abstracts; Forest Products Abstracts; Forestry Abstracts.

Crop Protection

Biocontrol News & Information; Helminthological Abstracts, Series B—Plant Nematology; Review of Applied Entomology, Series A—Agricultural; Review of Plant Pathology; Weed Abstracts.

Economics, Development and Sociology

Leisure, Recreation & Tourism Abstracts; Rural Development Abstracts; Rural Extension, Education & Training Abstracts; World Agricultural Economics & Rural Sociology Abstracts.

Machinery and Buildings

Agricultural Engineering Abstracts.

Human Nutrition

Nutrition Abstracts & Review, Series A—Human & Experimental.

Biotechnology/Biodeterioration

AgBiotech News & Information; Biodeterioration Abstracts.

Also published is a new series of current awareness publications (CAB Prompts) on specific crops. Subject indexes are not provided. Titles in the series so far are: *Groundnuts* and *Chickpeas/Pigeonpeas*.

Many retrospective compilations of abstracts (Annotated Bibliographies) on various topics are available on demand.

SDI Service

SDI (Selective Dissemination of Information) is a regular current awareness service based on the most recent input to the database. Subscribers decide their own search profile and receive search results at intervals of their own choice, either as computer printout or on floppy discs suitable for most microcomputers. Airmail ensures fast delivery.

CAB Alerts

This is a special SDI service providing subscribers each month with the search results from standard profiles chosen by CABI. Numerous titles are available and the list is regularly updated to reflect new subject interests. Output is available on computer printout posted by airmail.

MACHINE-READABLE PRODUCTS AND SERVICES

Online Access

The machine-readable database, known as CAB ABSTRACTS, is publicly accessible online through DIALOG Information Services (USA), BRS Information Technologies (USA), ESA-IRS (Italy), DIMDI (GFR), JICST (Japan), CAN-OLE (Canada) and Tsukuba Daigaku (Japan). The whole database back to 1973 contains over 2 million records. Search aids include the CAB ABSTRACTS Online Manual, the CAB Thesaurus (1988 Edition) and the CAB International Serials Checklist (1988).

Magnetic tapes

Organizations with access to mini or mainframe computers may lease all or part of CAB ABSTRACTS on magnetic tape. Update tapes are issued monthly, and retrospective tapes as required.

OTHER PRODUCTS AND SERVICES

Document Delivery Service

Photocopies of originals of most articles included in the database are available from CABI Library Services, Silwood Park, Ascot, UK. Documents may also be ordered online via DIALOG's DIALORDER or ESA/IRS's PRIMORDIAL.

Books and serial publications

CABI publishes authoritative reference books, directories and serial publications, the latter including *Bulletin of Entomological Research*, *Index of Current Research on Pigs*, *Distribution Maps of Pests*, *Distribution Maps of Plant Diseases*, *Bibliography of Systematic Mycology*, *Descriptions of Pathogenic Fungi & Bacteria*, *Index of Fungi*, and *Systema Ascomycetum*. CABI is a co-sponsor of the International Food Information Service which publishes *Food Science & Technology Abstracts*.

REVIEW OF PLANT PATHOLOGY

Prepared by the

CAB INTERNATIONAL BUREAU OF CROP PROTECTION

in association with the

CAB International Mycological Institute

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The Bureau of Crop Protection also prepares:

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How to use Review of Plant Pathology

* **EITHER BROWSE, using the CONTENTS**

* **Or SEARCH, using the INDEXES**

* **BROWSE, using the CONTENTS**

Within each issue, records are sequenced according to their principal subject matter – see CONTENTS page.

About three quarters of the records are arranged by CROP, so browsing is particularly useful for crop specialists. Within each crop, records are arranged in the order:

- general
- viruses, mycoplasma-like organisms, spiroplasmas, etc.
- fungi
- bacteria
- non-parasitic disorders.

The more general headings in the CONTENTS include records that cannot readily be assigned to a single crop.

* **SEARCH, using the INDEXES**

Subject indexes and author indexes are compiled monthly and annually.

SUBJECT INDEX

This guides the user to all the records that make significant reference to specific topics, including the following:

HOST SPECIES

These entries provide the most detailed indexing, pointing also to pathogen species and then to subject headings.

PATHOGEN SPECIES

Entries point also to host species or other subject headings.

COUNTRY etc.

For records where geographical occurrence is of particular relevance.

AGROCHEMICALS etc.

Including common or chemical names and, if stated, proprietary names. Including chemical elements with well defined deficiency or toxicity syndromes.

VECTORS

OTHER HEADINGS

The main ones are listed here. Scan the ANNUAL INDEX for a more complete picture.

Acid rain	Heat treatment	Reviews
Air pollution	Host parasite relationships	Quarantine
Air spora	Induced mutations	Seedborne organisms
Apparatus	Molecular genetics	Seed testing
Bibliographies	Mycorrhizas	Seed treatment
Biological control	Mycotoxins	Soil
Books	Phytoalexins	Soil treatment
Conferences	Plant extracts	Spore dispersal
Crop losses	Postharvest decay	Spore germination
Cultivation methods	Records, geography	Storage decay
Economics of control	Records, hosts	Storage disorders
Electron microscopy	Regulation	Techniques
Fertilizers	Reports	VIRUSES

* NEW IN 1989

All relevant records are now indexed under VIRUSES, subdivided by virus group name where appropriate. Records are also indexed under hosts and under individual virus names.

AUTHOR INDEX

All authors of each paper are indexed alphabetically by surname. Variants of surnames are also indexed.

* A TYPICAL RECORD

- 1) Abstract No.
- 2) Authors
- 3) English translation of title
- 4) Title
- 5) Journal or other document
- 6) (Year) Volume (Part) pages
- 7) Language of text, any other language of summary
- 8) Address of first author
- 9) Abstract
- 10) Preferred name, if the author uses another name. (Names of fungal perfect states are preferred to those of imperfect states)

The title should be read as an integral part of the abstract.

- 1 4427
- 2 GIEFFERS, W. HESSELBACH, J.
- 3 [Disease incidence and yield of different cereal cultivars in pure stands and mixtures. V. Comparative summary of cultivar mixtures with barley, wheat and rye 1984-1986.] Krankheitsbefall und Ertrag verschiedener Getreidesorten im Rein- und Mischanbau. V. Vergleichender Überblick der Sortenmischungen mit Gerste, Weizen und Roggen 1984-1986. → *Zeitschrift für Pflanzenkrankheiten und Pflanzenschutz* (1988) 95 (2) 203-209 [De, en, 23 ref.] Max-Planck-Inst. Züchtungsforschung, 5000 Cologne 30, German Federal Republic.
- 5
- 6
- 7
- 8
- 9 → Results are summarized of large and small plot trials in various locations in the GFR with pure stands and cultivar mixtures of spring and winter barley, winter wheat and rye with different sources of resistance to fungal diseases. Depending on the host, disease incidence due to *Erysiphe graminis*, *Septoria*
- 10 → [*Leptosphaeria*] *nodorum*, *Rhynchosporium secalis*, *Puccinia* spp. and *Pseudocercospora herpotrichoides*, both individually and in combination, was assessed. Ratings for leaf diseases were lower in mixtures than in pure stands. Infection due to *P. herpotrichoides* was mostly lower, but was higher in some winter barley and wheat cultivar mixtures. Yields were higher in mixtures than in their corresponding pure stands: rye 11.4%, spring barley 10.5%, wheat 4.4% and winter barley 1.2%. The correlation between yield and disease level was mostly negative. The superiority of mixtures was more evident in large than in small plots, although the same epidemiological pattern was observed in each. Mixtures showed a delay in pathogen spread and an inhibition of growth of fungal populations, resulting in greater stability and increased yield levels.

* TO OBTAIN A COPY OF THE ORIGINAL ITEM

Use the CAB International Document Delivery Service. A form is printed in this issue.

* LIST OF JOURNALS CITED

* NEW IN 1989

The Annual Indexes include an alphabetical list of all journals cited during the year.

* ABBREVIATIONS

A number of easily understood abbreviations are used (e.g. sp., species). Initial letters may be used for a virus after its full name has appeared. The following are also used:

a.e.	acid equivalent	LC	lethal concentration
a.i.	active ingredient	LD	lethal dose
c.f.u.	colony-forming unit	PAGE	polyacrylamide gel electrophoresis
conc.	concentrated	RH	relative humidity
concn	concentration(s)	RPP	<i>Review of Plant Pathology</i>
ED	effective dose	SDS	sodium dodecyl sulfate
ELISA	enzyme-linked immunosorbent assay	SEM	scanning electron microscope
EM	electron microscope	str.	strain
ID	infective dose	w.p.	wettable powder

In abbreviations for languages an initial capital denotes the language of the paper, an initial small letter the language of the summary:

Af	Afrikaans	Fi	Finnish	Nl	Dutch
Al	Albanian	Fr	French	No	Norwegian
Ar	Arabic	Gr	Greek	Pe	Persian
Az	Azerbaijani	He	Hebrew	Pl	Polish
Be	Byelorussian	Hu	Hungarian	Pt	Portuguese
	(White Russian)	la	Interlingua	Ro	Romanian
Bg	Bulgarian	In	Indonesian	Ru	Russian
Ch	Chinese	Is	Icelandic	Sh	Serbo-Croat
Cs	Czech	It	Italian		(either script)
Da	Danish	Ja	Japanese	Sk	Slovak
De	German	Ko	Korean	Sn	Slovene
Ee	Estonian	La	Latin	Sv	Swedish
En	English	Li	Lithuanian	Ta	Tajik
Eo	Esperanto	Lv	Latvian	Tr	Turkish
Es	Spanish	Ma	Macedonian	Uk	Ukrainian

How Review of Plant Pathology is compiled

Its purpose

Review of Plant Pathology is designed to keep readers in touch with developments in plant pathology, by abstracting the more important world scientific literature and by publishing review articles. The abstracts are intended to be full enough for readers to decide whether they need to see the original documents.

The scale and diversity of the source literature

Over 10,000 journals and other serial publications are received regularly by CAB International. About 5000 books and other non-serials are received each year. Publications are received from some 120 countries, in more than 50 languages. Even though English is increasingly the international language of science, some 40% of the literature is in other languages.

Scanning and abstracting the source literature of plant pathology

More than 2000 journals, and numerous new books, are scanned regularly in CAB International's Bureau of Crop Protection. The scientists and linguists who comprise the Bureau include a team of specialist plant pathologists.

These specialists identify items within the scope of *Review of Plant Pathology* – broadly, scientific documents about plant diseases, plant pathogens, and relevant crop-protection practices and products; mycorrhizas are also covered.

For each item, a record is created consisting of:

- bibliographic information
- an abstract, in English
- index terms.

The CAB ABSTRACTS database

These records are added to the CAB ABSTRACTS bibliographic database. This machine-readable database contains all records published since 1973 in *Review of Plant Pathology* and the other CAB International abstract journals. The total of over 2 million records is growing by more than 130 000 new records per year, of which more than 18 000 per year are on crop protection and about 6000 per year are on plant pathology.

The database is available to users for retrospective retrieval and for maintaining current awareness of literature on defined topics. See inside back cover.

The printed journal

Each month, relevant records newly added to the database are automatically selected and, with the aid of typesetting software, become the basis for a new issue of *Review of Plant Pathology*.

Records are sorted into a standard sequence within each journal issue, according to subject matter. An author index and a subject index are generated from the index terms created previously. Cumulative indexes are generated at the end of each year.

Scientific links

Review of Plant Pathology is prepared in association with the CAB International Mycological Institute (CMI). CMI is the authority for the preferred names of fungi and bacteria used in the journal. CMI's half-yearly *Bibliography of Systematic Mycology* lists taxonomic papers and forms a useful supplement to *Review of Plant Pathology*. New generic and specific names are compiled in CMI's *Index of Fungi*.

There are also links with the International Committee on the Taxonomy of Viruses, to provide an authority for the preferred names used for viruses.

Review of Plant Pathology has an international Editorial Advisory Board of experienced plant pathologists, whose members advise on the content and development of the journal, and commission review articles of topical interest.

The compilers of *Review of Plant Pathology* are in contact with CAB International subject specialists who compile 49 other abstract journals covering agricultural science and related disciplines. In particular, there are close links with a family of other abstract journals covering four areas of crop protection:

- agricultural entomology (*Review of Applied Entomology, Series A, Agricultural*)
- plant nematology (*Helminthological Abstracts, Series B, Plant Nematology*)
- weed science (*Weed Abstracts*)
- biological control (*Biocontrol News and Information*).

Comments from users are always welcome

Please write to Dr Peter R. Scott, Bureau of Crop Protection, CAB International, Wallingford, Oxon OX10 8DE, UK.



Retrieving records on plant pathology from the CAB ABSTRACTS database

The CAB ABSTRACTS database gives access to all records published since 1973 in *Review of Plant Pathology* (and the other CAB International abstract journals).

The database provides a powerful tool for retrieving:

- records from any one of the CONTENTS headings or their subdivisions (more than 80 subdivisions are explained in *CAB ABSTRACTS Online*).
- records containing, for example:
 - an author's name
 - a host name
 - a pathogen name
 - a country name
 - a vector name
 - an agrochemical name
 - a journal name
 - any chosen word or phrase (including any index phrase)
- any chosen combination of these.

Retrieval can be:

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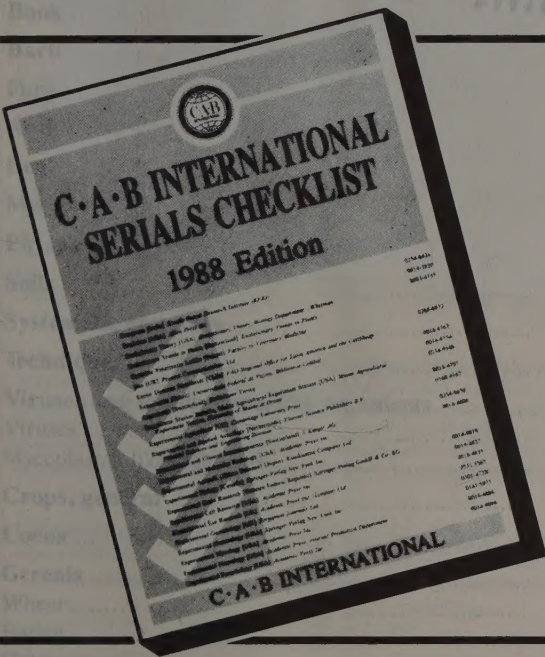
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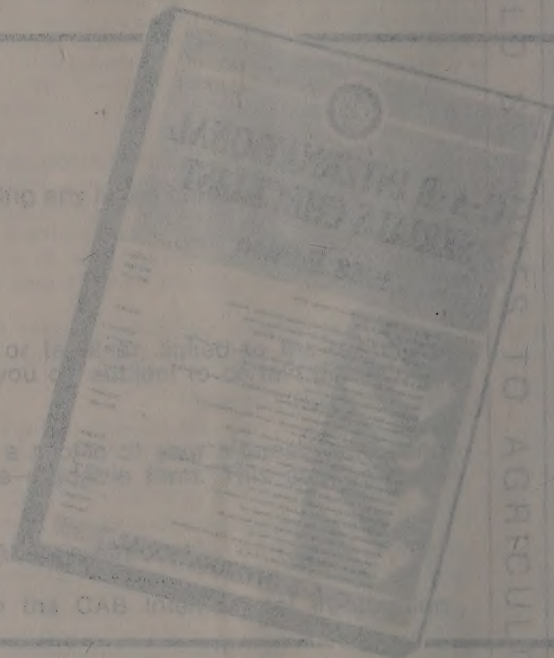
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